DOCUMENT RESUME

ED 357 580 EC 302 127

AUTHOR	Yoder, David E.; And Others
TITLE	Personnel Needs--Allied Health Personnel Meeting the Demands of Part H, P.L. 99-457.
INSTITUTION	North Carolina Univ., Chapel Hill. Carolina Policy Studies Program.
SPONS AGENCY	Special Education Programs (ED/OSERS), Washington, DC.
PUB DATE	Nov 90
CONTRACT	G0087C3065
NOTE	22p.
PUB TYPE	Reports - Research/Technical (143)
EDRS PRICE	MF01/PC01 Plus Postage.
DESCRIPTORS	Change Strategies; *Disabilities; *Early Intervention; Educational Legislation; Federal Legislation; Infants; Information Needs; Needs Assessment; *Occupational Therapy; *Personnel Needs; *Physical Therapy; Preschool Education; Program Implementation; *Speech Therapy; Staff Development; Therapists; Toddlers; Trend Analysis
IDENTIFIERS	*Education of the Handicapped Act 1986 (Part H)

ABSTRACT

This report describes personnel development issues relating to the involvement of occupational therapists, physical therapists, and speech-language pathologists in implementing Part H of Public Law 99-457, which calls for early intervention services for infants and toddlers with disabilities and their families. To determine personnel needs for implementation of Part H, this study reviewed workforce studies, labor statistics, and data about preservice allied health training programs. The study found that shortages projected for the year 2000 equal about 50 percent of existing occupational therapists, over 200 percent of existing certified occupational therapy assistants, 87 percent of existing physical therapists, and 40 percent of existing speech-language pathologists. Reasons for the severe shortages include: (1) population trends have increased the demand for these services; and (2) the number of new professionals entering these fields has been reduced. Additional information needed to effectively plan for early intervention services is discussed. Strategies are offered for dealing with the anticipated shortages of allied health personnel, including contracting, increasing personnel supply, developing new service delivery models, redefining who should receive services, and delivering holistic developmental services. (Contains approximately 30 references.) (JDD)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
☑ This document has been reproduced as received from the person or organization originating it.
☐ Minor changes have been made to improve reproduction quality.
• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

ED357580

Carolina Institute for Child and Family Policy

Personnel Needs - Allied Health Personnel Meeting the Demands of Part H, P. L. 99-457

DAVID E. YODER
PATSY P. COLEMAN
JAMES J. GALLAGHER

The University of North Carolina at Chapel Hill

EC 302127

BEST COPY AVAILABLE

Frank Porter Graham Child Development Center
Carolina Policy Studies Program
University of North Carolina at Chapel Hill
300 NCNB Plaza
Chapel Hill, North Carolina 27514
(919) 962-7374

Personnel Needs - Allied Health Personnel Meeting the Demands of Part H, P. L. 99-457

DAVID E. YODER
PATSY P. COLEMAN
JAMES J. GALLAGHER

NOVEMBER 1990

Carolina Policy Studies Program is funded by the Office of Special Education Program, U.S. Department of Education, Cooperative Agreement #G0087C3065. However, these contents do not necessarily represent the policy of the Department of Education, and you should not assume endorsement by the Federal Government.

The creators of Part H of P. L. 99-457, (Comprehensive Services to Infants and Toddlers with Handicapped Children and Their Families), clearly recognized the importance of qualified personnel to this enterprise. Of the fourteen requirements placed on the states, one addressed the need to establish personnel standards for this target group and another dealt with the creation of a plan for personnel preparation. This report describes some of the personnel issues and potential solutions in the allied health fields of occupational therapy (OT), physical therapy (PT), and speech-language pathology (SLP).

The regulations for receiving federal support through Part H, P.L. 99-457 specifically require the evaluation, assessment, and treatment services of several of the allied health professions such as occupational therapists (OT), physical therapists (PT), and speech/language pathologists (SLP). Meisels, Harbin, Modigliani, and Olsen (1988) reported, however, that lack of trained personnel was one of the most serious policy issues facing states in the provision of services to the birth to three population and their families.

There are many technical problems in determining personnel needs which act as barriers to effective planning. This report will present some of these problems that state planners might face when making decisions regarding the personnel needs for the effective delivery of early intervention services.

METHOD

To describe some of the potential problems and possible solutions of the personnel issues surrounding implementation of Part H, the following

general questions were asked about three of the ten professions (Occupational Therapy, Physical Therapy, Speech-Language Pathology) listed in the legislation:

1. What is the existing supply of occupational therapists (OTs), Physical Therapists (PTs), and Speech-Language Pathologists (SLPs)?
2. How many Full Time Equivalent OTs, PTs, and SLPs are needed to serve the birth to three population with handicaps or at risk for handicaps?
3. Based on questions 1 and 2, how many additional OTs, PTs, and SLPs will be needed to meet the demands of full implementation of Part H?

These three professions were chosen to illustrate these personnel questions because of their long histories of serving children and the frequent suggestions that there were significant personnel shortages in their fields. Current workforce studies were reviewed from these professional organizations, in order to obtain current information on the existing supply of OTs, PTs, SLPs and to identify some of the dilemmas facing these professions. The workforce studies included:

- The American Occupational Therapy Associations' (AOTA) Manpower Survey (1985);
- The American Physical Therapy Associations' (APTA) Faculty Activity Survey (1989); and
- The American Speech-Hearing-Language Associations' (ASHA) Workforce Study (Shewan, 1988).

These studies were analyzed along with information from federal agencies such as the Bureau of Labor Statistics (1986), which reported total number of part and full time OT, PT, and SLP positions. Faculty data for each of the professions were also analyzed because of cited shortages of general pre-service training programs for allied health (Dockery, 1988) and an emphasis on personnel preparation for early intervention cited in Part H.

RESULTS

Need for OT, PT, and SLP Personnel for Persons of All Ages

One of the key questions is how much demand exists for these three specialties? The term demand for personnel can be, and is, calculated under two very different sets of assumptions. Each of these assumptions yields a different figure regarding the professionals needed. One way to calculate demand is to count the number of vacant positions. The vacant position approach is realistic in the sense that it takes into account the allocation of resources that has already been made.

A second way to determine demand for personnel, however, is to project what personnel would be needed given the assumption of full service, or something equivalent to that, to all eligible children. This results in a much larger figure. While it is theoretically sound, it is not likely to match current budget allocations.

Occupational Therapy. Since the basis for calculating the level of demand is different from one discipline to another, it is important that the reader understand how demand is calculated to understand the figures noted below. This term was defined by the AOTA as the number of professionals needed by a given population. The AOTA determined need for OTs based on an "ideal ratio." This ideal ratio for overall services needed was determined by taking 75 percent of the highest ratio of OTs (New Hampshire: 29:1) and Certified Occupational Therapy Assistants (COTAs) (Minnesota: 17:3) per every 100,000 persons. Seventy-five percent of 29:1 and 17:3 yields an ideal ratio of 21:8 OTs and 12:9 COTAs per 100,000 people. On this basis, the following figures note the current situation with regard for OTs and COTAs.

PRESENT SITUATION

Current Available	Current Demand	Current Shortage
37,600 OTs	54,503 OTs	16,903 OTs
9,300 COTAs	32,402 COTAs	23,102 COTAs

The shortage of almost 17,000 OTRs and over 23,000 COTAs is based upon the services being delivered at a near optimum level. When projections are made to the year 2000 under the same assumptions then the figures look like this:

ESTIMATED YEAR 2000

Potential Supply	Projected Demand	Projected Shortage
45,297 OTs	56,664 OTs	11,367 OTs
12,178 COTAs	33,687 COTAs	21,509 COTAs

The potential supply is determined by calculating the number of current personnel (active and inactive) plus the current number of OTR and COTA students. The projected demand is calculated using the same ideal ratio upon demographic projections of population. The additional demand required by the implementation of Part H of P.L. 99-457 are not factored into these calculations and would result in an even greater demand. The shortages projected in Year 2000 equal about 50% of the existing OTRs and over 200% of existing COTAs. How such shortages can be reduced is a central unsolved issue. How services can be adequately provided to infants and toddlers represents an extension of the more general issue.

Physical Therapy. In this discipline, 'demand' is calculated as the total number of positions currently available as reported by the Bureau of Labor Statistics (1986). The potential supply is calculated by counting the current registered Physical Therapists plus the current number of students.

The Bureau of Labor Statistics has recently estimated an increase in projected demand of PT positions of 87% by the year 2000 based upon population trends. This results in major shortages as noted below. In addition, none of these figures include the Part H, P.L. 99-457 expansion. Further, there are 100 funded faculty positions now vacant so there is already difficulty in building the needed personnel preparation centers to reduce the vacancies (Dockery, 1988).

PHYSICAL THERAPY PERSONNEL PATTERNS

Current Available	Current Demand	Current Shortage
65,150 LPTs	68,000 positions	2,850 LPTs positions
Potential Supply	**Projected Demand**	**Projected Shortage**
98,190 LPTs	127,160 LPTs	28,971 LPTs

Speech/Language Pathology. Conditions of chronic shortages also appeared in the speech/hearing/language pathology profession. Currently, there is one speech/language pathologist (SLP) for every 240 communicatively impaired individuals in the United States (NRC, January, 1989). Caseload size for SLPs ranged from 6 to 90 (ASHA, 1988) with a mean monthly caseload of 46.5 clients (Hyman, 1985). Many individuals needing speech-language-hearing services are currently unserved.

The U.S. Department of Education found that 2500 additional SLPs were needed to meet the requirements of serving school age children under P.L. 94-142 (NRC, l989). Fifty-nine percent of the school systems in Arizona, Colorado, New Mexico, and Utah, for instance had unfilled speech/language positions during the 1985-86 school year (Simmone & Malone, 1988). The North Carolina State Department of Public Instruction, moreover, projects a need for 250 additional full time SLP positions to provide adequate services during the 1991-1992 school year (Tom Layton, personal conversation, Director, Division of Speech and Hearing Sciences, UNC-Chapel Hill, April, 1988). The overall national vacancy of positions for speech/language pathologist positions in 1986 was 15.1% (AHEC, 1986).

Nationally, there has been a 40% decline, in the number of undergraduate SLP degrees awarded since 1973, and a 34% decline in the number of master's level students between 1982 and 1987 (Cooper, Helmick, & Ripich 1987).

PRESENT SITUATION

Current Available	Current Demand	Current Shortage
83,107-87,897 SLPs (85,502 average)	117,729-271,047 (194,388 average)	34,622-183,150 (108,886 average)

Even with the use of the most conservative figures, there are major shortages. One would need 40% more qualified personnel to eliminate the shortage, an unlikely goal, given the reduction in programs that have take place.

ESTIMATED YEAR 2000

Potential Supply	Projected Demand	Projected Shortage
144,601-150,983 SLPs (147,792 average)	127,428-294,941 (211,185 average)	63,393 average

Since ASHA calculates "demand" on the basis of vacant positions, the demands did not change significantly in the year 2000. We have little current information on how many SLPs are currently working at the infant and toddler level.

Some of the significant figures related to meeting the personnel demands for the three fields are as follows:

OCCUPATIONAL THERAPY

* A 32% national shortage of OTs (NRC, 1989).
* 84 accredited OT programs in US; 82% of student slots filled.
* Number of OT graduates stable since 1977, but an increase of 322 AOTAs since 1980 (Burrows & Hedrick, 1988).
* About 50% of OTR's work with children, but only 7% work with children under the age of 5.
* Demand for OTs expected to increase by 52% by year 2000 (Bureau of Labor Statistics, 1986).

PHYSICAL THERAPY

* The Rehabilitation Service Agency ranks physical therapy as the area with the greatest personnel shortages (NRC, 1989).
* New York and North Carolina report 20% vacancies in current positions.
* Demand for PTs expected to increase by 87% by year 2000 (Bureau of Labor Statistics, 1986).
* About 11% of current workforce works with children (Shea, 1987).
* Nine doctoral programs for PTs in US.
* 100 current vacancies in PT faculty positions nationwide.

SPEECH LANGUAGE PATHOLOGY

* Monthly caseload of about 46:1-many individuals needing services currently unserved (Hyman, 1985).

* 2500 additional SLPs are needed to meet requirements for serving school age children.
* There has been a 34% decline in Masters students between 1982 and 1987 (Cooper, Helmick, & Ripich, 1987).
* There has been a 8% decline in Personnel Preparation programs for SPL between 1982-1987.
* Survey showed less than half of ASHA members feel themselves qualified to work with infants and toddlers (Shewan, 1989).
* Demand for SLPs expected to increase by 34% by the year 2000 (Bureau of Labor Statistics, 1986).

In short, the conditions are not favorable for a sharp increase in available personnel in these three areas. We cannot meet current demands, much less the increased future demands of Part H, P.L. 99-457. Some special incentives, program initiatives, or changed service delivery models would seem to be needed. These figures also do not take into account the special needs of P.L. 99-457, Part H.

Reasons for General Shortages

The reasons for the severe shortages cited here appear to be two-fold. First, the population trends (e.g., more elderly, and more impaired infants) have increased the demand for the services of occupational therapists, physical therapists, and speech/language pathologists. The second factor is the reduced number of new professionals entering these fields. Women have traditionally made up the majority of workers in these professions. There are now many more options open to women and fewer are choosing service and health related fields. The newer options

open to women offer higher salaries than are currently offered by the allied health professions (Allied Health Education Newsletter January, 1989; IOM, 1989). The National Rehabilitation Caucus (1989) listed the following reasons for decrease in numbers of new allied health professionals:

1. Inability to increase university class enrollments for lack of funds.
2. Inadequate numbers of professors.
3. Shortage of training programs nationwide in PT and OT.
4. Decreasing funds for scholarships and loans to attract students.
5. Lack of qualified applicants (Simrnone & Malone, 1988).
6. Low salaries (Simmone & Malone, 1988).
7. College age population-under 34 will decrease by 3.3% by 2000 (Council on Medical Education, 1988).

The general status of allied health professions indicates a significant rise in demand without a corresponding increase in supply. More detailed information obtained from four states that had been serving the 0 to 3 population prior to the passage of Part H of 99-457 indicated that a minimum of an additional 10,000 children will need services in each state if the program is to reach the goal of full service. Each of the four states indicated substantial difficulty in finding adequate numbers of OTs, PTs, and SLPs to provide "appropriate" services.

Discussion

Current and projected supply and demand information did not reveal any answers specific to the increased need of OTs, PTs, and SLPs to work with infants and toddlers with special needs and their families. In order to effectively plan for these services, we need the following information:

1. *How many persons are currently receiving services?*

This is not an easily obtained figure to reproduce for each of the three professions. One can aggregate the case load of professionals, but much of the work may be done in private practice and not reportable. The number of children served cannot be aggregated because the simple addition of service records results in a probable duplication of count.

2. *How many professionals are now on the job?*

There are good records available to chart both professionals and professional assistants currently at work in these professions. Current shortages are calculated on the basis of unfilled available positions. If we are to accept that figure as correct, we would have to accept the proposition that all persons needing services have already been identified. Otherwise, we would have to calculate additional positions needed on the basis of some type of case load estimates for all persons in need. When these questions are extended to infants and toddlers, the answers become even more difficult to obtain.

3. *How many infants and toddlers are currently receiving service?*

This figure is difficult to obtain since most states or service programs do not keep such figures with a 0-3 age breakout. Nor can one merely estimate a proportion of children from a larger (i.e., 0-6 or 0-12) age range population since the services delivered are not equally distributed over these age ranges.

4. *How many professionals are currently working with infants and toddlers?*

This figure is also difficult to obtain since few professionals limit their practice to children in the age range of 0-3, but many (how many?) will take a case or two in that age range. The calculation of Full Time Equivalents working with this age group becomes one of gross estimation of the accumulated proportion of the time that these three types of professionals are spending with this age group and their families.

5. *How many infants and toddlers will be in need of service when the law is fully implemented?*

This figure depends both on the definition finally accepted by the individual states, and what proportion of the eligible children will need the particular services of the allied health personnel.

6. *How many professionals will be needed to fully serve the needs of infants and toddlers under full implementation?*

This figure depends upon (a) the number of children needing service, (b) the pattern of work allocation of professionals (e.g., How many

professionals will work, for how much time, with infants and toddlers?) and (c) the type of service delivery pattern adopted (e.g., How will professional associates be used in service delivery?).

7. *What are the available personnel preparation resources?*

Final questions are how many professionals can we anticipate being prepared in these disciplines under current circumstances, and what are the capabilities of current preparation programs for expansion, if that were deemed necessary? In this instance, there is a record of current faculty allocation and vacancies in accredited programs. A more thorough investigation is needed to determine 1) the degree to which higher education or community college programs could or would be willing to expand in order to meet the growing need and 2) if there are institutions who do not currently have a program but would be interested in beginning such a program.

Suggested Strategies

In the face of these discouraging figures, a few strategies are offered to deal with the anticipated shortages of allied health personnel for service delivery through Part H of P.L. 99-457. First of all, projected imbalances in demand and supply signal that employers and potential employees must, and probably will, make adjustments (IOM, 1989).

1. **Contracting**. These adjustments may include adopting employee contracting practices similar to those used in several states. In these states, all licensed allied health personnel were eligible for contractual services. Use of paraprofessionals such as the licensed

OT and PT assistants would also help increase the supply of needed personnel in these areas.

2. **Increase Personnel Supply**. Another strategy that has been emphasized by allied health education programs is to increase the number of persons entering these fields. More effective public relations, higher salaries for practitioners, and more effective student recruitment are a few of the strategies indicated to obtain this goal (Allied Health Education Newsletter, January, 1989). It should not be imagined, however, that any increase in supply through this approach would meet the projected demand in the short run.

3. **New Service Delivery Models**. Perhaps the most important adjustment that states may need to make in order to provide appropriate and adequate services is to change or modify current service delivery models. Texas, for instance, indicated that they will need fewer therapists if they adopted a consultant rather than a direct service model (D. Samuelson, personal conversation, Special Project Coordinator, Early Childhood Intervention Programs, Texas, August, 1989).

4. **Who Receives Services?** The shortage of qualified personnel raises the question as to who will, or should, receive services. Should it be the most severely impaired or the children with moderate problems who could be more responsive to treatment?

It seems that many persons will not receive needed OT, PT, SPL services. The question seems to be, will the decision as to 'who to serve' be made haphazardly as an accident of geography or staffing patterns or will there be some deliberate professional strategy adopted?

5. **Wholistic Developmental Services.** Occupational therapists, physical therapists, and speech language pathologists may need to adapt to a transdisciplinary approach in delivering overall developmental habilitation services as an approach to working with infants, toddlers, and their families. The integrative approach would allow one of these professionals to meet the total needs of the infant and his/her family by providing integrated wholistic services through the use of other professionals as consultants. This approach would necessitate extensive inservice training for these professionals, and possible changes in licensure or certification standards (Gallagher, Shields, & Staples, 1990). Further research to test the feasibility of this approach seems warranted.

A Final Word

In conclusion, severe shortages of allied health personnel do exist and threaten the effective implementation of comprehensive services promised in Part H of P.L. 99-457. For the intent of Part H, P.L. 99-457 to become a reality, an adequate number of qualified personnel must be obtained through education, contracting, and service delivery changes. We believe that the ICCs and other policy making bodies in the states will need to give special attention to the personnel preparation issue in the near future. This includes the development of strategies to address these troublesome figures presented in this report.

References

Allied Health Education Newsletter, (January, 1989), 20, (1), 1-6.

American Occupational Therapy Association (1985). Occupational therapy manpower: A plan for progress. Rockville, MD: AOTA.

American Occupational Therapy Association (1988). 1988 education data survey final report. Rockville, MD: AOTA.

American Physical Therapy Association (June, 1989). Faculty activity survey. Alexandria, VA: APTA.

American Speech-Language-Hearing Association Governmental Affairs Department (May, 1988). State licensure, certification, and caseload requirements report. Rockville, MD: ASHA.

Bailey, D.B. (1989). Issues and directions in preparing professionals to work with young handicapped children and their families. In J. J. Gallagher, R.M. Clifford, and P. Trohanis (Eds.), Policy implementation for children with special needs. Baltimore: Paul Brookes.

Brice, J.L. (September 19, 1988). No shortage of jobs for many health care technologists. Health Week, 38.

Bureau of Labor Statistics (1986). Bulletin 2302. Washington, D.C.: U.S. Department of Labor.

Burrows, W.R. & Hedrick, H.L. (August, 1988). Allied health education and accreditation. Journal of the American Medical Association, 260(8), 1113-1119.

Cooper, E.B., Helmick, J.W., Ripich, D.N. (1987). Council of graduate programs in communication sciences and disorders: National survey. Tuscaloosa, AL: The University of Alabama.

Dockery, J.L. (1988). Council on medical education report. Reported to Reference Committee C, Donald T. Lewers, M.D., Chairman.

Gallagher, J. J., Harbin, G., Thomas, D., Clifford, R., and Wenger, M. (1988). Major policy issues in implementing Part H, P.L. 99-457 (infants and toddlers). Chapel Hill: The University of North Carolina at Chapel Hill.

Gallagher, J. J., Shields, M., & Staples, A. (1990). Personnel preparation options: Ideas from a policy options conference. Chapel Hill, NC: Carolina Policy Studies Program. The University of North Carolina at Chapel Hill.

Higher Education and National Affairs, (March, 1988). Shortage of health care personnel predicted, 6.

Hyman, C.S. (1985). The 1985 omnibus survey: Implications for strategic planning. ASHA, 28(4). Rockville, MD: The American Speech-Language Hearing Association.

Institute of Medicine (1989). Allied health services: Avoiding crises. Washington: National Academy Press.

Kontos, S. and Dunn, L. (1989). Characteristics of the early intervention workforce: An Indiana perspective. Early Education and Development, 1(2), 141-157.

Meisels, S.J., Harbin, G.L., Modigliani, K., and Olsen, K. (1988). Formulating optimal state early childhood intervention policies. Exceptional Children, 55, 159-165.

National Rehabilitation Caucus. (January, 1989). Crisis looms: Shortage of medical rehabilitation therapists threatens patient care. A paper written by the American Occupational Therapy Association, the American Physical Therapy Association, the American Speech-Hearing-Language Association, the National Association of Rehabilitation Agencies, the National Association of Rehabilitation Facilities, and the National Easter Seal Society.

North Carolina Area Health Education Centers Program (1986). Manpower survey final report. Chapel Hill: The University of North Carolina School of Medicine.

Palsha, S., Bailey, D., Vandivere, G., and Munn, D. (1990). A study of employee stability turnover in home-based infant intervention. Journal of Early Intervention, 14(4), 342-351.

Palsha, S.A. (1989). Personal and organizational factors related to turnover of early childhood interventionists serving handicapped infants and their families. Doctoral dissertation. University of North Carolina at Chapel Hill.

Physical Therapy Bulletin, March 23, 1988. ASAHP study foretells serious shortage of PT.

Plan to address the faculty shortage in physical therapy education. (1985). Alexandria, VA: American Physical Therapy Association.

Shea, A. M. (1987). The practice of physical therapy with children, adolescents, and their families. Presented at Symposium on Priorities for Physical Therapy in Maternal and Child Health, Rougemont, N.C.

Shewan, C. M. (1988). ASHA workforce study final report. Rockville, MD: The American Speech-Language-Hearing Association.

Shewan, C.M. (1989). Quality Is Not a Four Letter Word. ASHA, August, 1989. Rockville, MD: The American Speech-Language-Hearing Association.

Simmone, J. and Malone, D. (1988). Public school speech-language pathologists needed in Arizona, Colorado, New Mexico and Utah. ASHA, 30(2). Rockville, MD: The American Speech-Language-Hearing Association.

Frank Porter Graham
Child Development Center
CB No. 8040, 300 NCNB Plaza
Chapel Hill, NC 27599